

REMARKS

Claims 1-35 are pending in the above-captioned patent application after this amendment. Claims 1-35 have been rejected. The Applicant respectfully traverses the rejection claims 1-35.

No new matter is believed to have been added by this amendment. Consideration of the pending application is respectfully requested.

Rejections Under 35 U.S.C. § 103

Claims 1-35 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Coles (US 6,062,500) in view of Sawano et al. (JP 10106074 (erroneously indicated as European Patent Office No. 10106074 in the Office Action)). The Applicant respectfully traverses the rejection of claims 1-35 on the grounds that a prima facie case for obviousness has not been established. There is no motivation to combine the cited references, and to do so constitutes impermissible hindsight. Moreover, even if the cited references could be properly combined (which the Applicant strongly disputes), the cited combination of references does not teach or suggest the features of many of the rejected claims.

With respect to claims 1-11, 13-21, 23-31 and 33-35, the Patent Office states in its rejection that "Coles, Figure 1, teaches a guide assembly comprising a first rotatable roller. Sawano, teaches a guide assembly comprising a first roller including a perimeter surface, a circumference, a longitudinal axis and a groove 1b disposed into the perimeter surface, the groove having a groove length that is less than the circumference. It would have been obvious to one of ordinary skill in the art to provide grooves to the rotatable roller of Coles, as taught by Sawano, for the purpose of minimizing the friction and the tension on the magnetic tape thereby increasing the life of the magnetic tape." The Applicant respectfully asserts that this analysis of the cited references is inaccurate, as provided below.

Coles is directed toward a high speed reel for a tape drive 10 having a drive housing 12 and a data transducer 14. The tape drive 10 includes one or more tape rollers 30 that are rotatably secured to the drive housing 12. The tape rollers 30 guide a storage tape 22 of a tape cartridge 18 past the data transducer 14 and onto a take-up reel 16. No

further details of the tape rollers 30 are provided in Coles.

Contrary to the assertion by the Patent Office that the tape guide in Sawano et al. is a “roller”, Sawano et al. is actually directed toward a non-rotational tape guide. (Abstract). The non-rotational tape guide includes a roughened surface that is set to a specified level by including one or more recesses having a specified shape. (Abstract). The “specified shape” of the recesses is a length of 30-70 microns (approximately 0.0012 - 0.0028 in.), a width of 3-5 microns (approximately 0.00012 – 0.0002 in.), and a depth of 1 – 100 microns (approximately 0.00004 – 0.004 in.). (Abstract). Moreover, Sawano et al. does not teach or suggest that the depth of any one specific recess varies along its length.

There is no motivation to combine the cited references in the manner suggested by the Patent Office. More specifically, there is no motivation to use the grooves taught by Sawano et al. in Coles’ tape rollers. “The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in the applicant’s disclosure.” *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991; Emphasis added). In the present case, neither is found. Coles does not indicate or suggest in any manner that having grooves on the rotatable tape rollers would be either necessary or advantageous for any reason whatsoever.

In fact, there is no suggestion in Coles that dynamic friction between the storage tape 22 and the tape rollers 30 is a problem or that any dynamic friction needs to be reduced or minimized.¹ To the contrary, it seems obvious that dynamic friction between a storage tape and a rotatable tape roller would inherently be minimized or non-existent because the tape roller is rotating along with movement of the storage tape along the roller. Thus, in theory, no dynamic friction should be present.

Importantly, Sawano et al. provides in its description of the technical problem that “... in the rotation guide idlers 4, 6, 7, 8, and 9 of a rotating type, although most frictions with a magnetic tape 10 can be disregarded, in the guide pins 1, 2, 3, and 4 of a nonrotation formula, friction with a magnetic tape poses a problem.” (Sawano et al. translation, “Technical Problem” section; Emphasis added). Therefore, Sawano et al.

¹ As designed, static friction causes the tape rollers to rotate. Thus, a certain amount of static friction is inherently desirable so the guides rotate properly.

explicitly disagrees with the conclusion drawn by the Patent Office that friction for rotating tape rollers is a problem that needs to be addressed. In summary, the concern of the Patent Office of minimizing friction appears to be unfounded, and even expressly controverted, in the cited references.

Further, tension on the storage tape is decreased because the roller rotates. It is not obvious from the references how adding grooves to a rotatable tape roller would minimize tension on the storage tape as indicated by the Patent Office, since the tape roller already rotates with movement of the storage tape. Thus, there is no clear benefit provided in the references for adding grooves having a specific orientation or pattern to the rotating tape rollers of Coles. Stated another way, one skilled in the art reading Coles would not be motivated to add the grooves provided in Sawaro et al. to the rotating tape rollers.

Even if the combination of references taught every element of the claimed invention (which it does not, as explained below), without a motivation to combine, a rejection based on a prima facie case of obviousness has been held improper. *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998). Further, the “mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.” *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990; emphasis original and added).

Moreover, neither of the references teaches that there would be a reasonable expectation of success in combining the rotating tape roller of Coles with the grooves on non-rotating tape guides of Sawano et al. The apparatus taught by Coles appears to operate with a threshold level of static friction between the storage tape and the rotating tape roller, in order to cause the tape roller to rotate. If the level static friction were to decrease by including grooves on the face of the tape roller, it is not obvious that these two devices would be effectively combined. Further, if your goal is to decrease tension (as stated by the Patent Office), it is unclear from the cited references how adding grooves will accomplish this. Thus, one skilled in the art would not necessarily expect that combining the rotating tape roller in Coles with the groove pattern in Sawano et al. would result in a properly working device having the stated benefits.

Additionally, the “references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention ...” *Hodosh v. Block Drug Co., Inc.* 786 F.2d 1136, 1143, n. 5, 229 USPQ 182, 187, n. 5 (Fed. Cir. 1986). The Federal Circuit has stated, “[i]t is difficult but necessary that the decisionmaker forget what he or she has been taught ... about the claimed invention and cast the mind back to the time the invention was made (often as here many years), to occupy the mind of one skilled in the art who is presented only with the references, and who is normally guided by the then-accepted wisdom in the art.” *W.L. Gore & Associates, Inc. v. Garlock, Inc.* 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984).

In the present case, there is nothing stated in Coles providing motivation to look to another reference (such as Sawano et al.) to find a configuration on the face of the tape guide to minimize friction and tension on the storage tape. Consequently, the motivation to combine a rotating tape roller with a specific pattern of grooves can be found only in the teachings of the present application. Thus, combining Coles and Sawano et al. in the manner suggested by the Patent Office constitutes impermissible hindsight.

In addition, the cited combination of references does not teach or suggest the features of many of the rejected claims. For example, in contrast to the cited references, original claim 14 requires “a first roller including a perimeter surface, a circumference, a longitudinal axis and a groove disposed into the perimeter surface, the groove having a groove depth that varies along the length of the groove.” These features are not taught or suggested by the cited combination of references. Therefore, a rejection of claim 14 under 35 U.S.C. § 103(a) is unsupported and should be withdrawn. Because claims 15-24 depend directly or indirectly from claim 14, a rejection of these claims should also be withdrawn.

Original claim 25 requires “a first roller having a perimeter surface, a circumference and a plurality of spaced-apart discontinuous grooves disposed into the perimeter surface, each groove being positioned substantially parallel to the circumference of the roller, each groove having (i) a groove depth that varies between approximately zero inches and 0.02 inches, (ii) a groove length of between approximately 0.1 inches and 0.3 inches, and (iii) a groove width of between

approximately 0.005 inches and 0.015 inches.” These features are not taught or suggested by the cited combination of references. Therefore, a rejection of claim 25 under 35 U.S.C. § 102(b) is unsupported and should be withdrawn.

Original claim 28 is directed toward a method that requires the steps of “providing a roller portion having a circumference and a perimeter surface, and forming a groove into the perimeter surface so that the groove has a groove depth that varies along the length of the groove.” As provided above, these steps are not taught or suggested by the cited combination of references. Therefore, a rejection of claim 28 under 35 U.S.C. § 102(b) is unsupported and should be withdrawn. Because claim 29 depends from claim 28, a rejection of this claim based on the cited combination of references is also unsupported, and should be withdrawn.

Further, claim 34 requires “a first roller including a perimeter surface, a circumference, a longitudinal axis and a groove disposed into the perimeter surface, the groove having a groove length that is less than the circumference, and a groove depth that varies between approximately zero inches and 0.02 inches along the length of the groove.” These features are not taught or suggested by Sawano et al. Therefore, a rejection of claim 34 under 35 U.S.C. § 102(b) is unsupported and should be withdrawn.

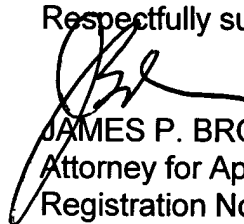
Further, Sawano et al. is directed toward a non-rotational tape guide that includes recesses having an area ratio of not greater than 30%. Claim 35 requires that the percentage of the perimeter surface onto which grooves are disposed is greater than 30 percent. This feature is not taught or suggested by Sawano, and claim 35 should therefore be allowed.

Conclusion

In conclusion, the Applicant respectfully asserts that the finality of this Office Action should be withdrawn, and that claims 1-35 are allowable for the reasons set forth above, and that the application is now in a condition for allowance. Accordingly, an early notice of allowance is respectfully requested. The Examiner is requested to call the undersigned at 858-487-4077 for any reason that would advance the instant application to issue.

Dated this the 31st day of January, 2006.

Respectfully submitted,



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